

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
23 June 2005 (23.06.2005)

PCT

(10) International Publication Number  
**WO 2005/057773 A1**

(51) International Patent Classification<sup>7</sup>: H02P 1/44, 5/402

(21) International Application Number:  
PCT/BR2004/000241

(22) International Filing Date: 9 December 2004 (09.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
PI0305905-7 11 December 2003 (11.12.2003) BR

(71) Applicant (for all designated States except US): EM-  
PRESA BRASILEIRA DE COMPRESSORES S.A. -  
EMBRACO [BR/BR]; Rua Rui Barbosa, 1020, 89219-521  
Joinville - SC (BR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): SCHWARZ, Marcos,  
Guilherme [BR/BR]; Rua General Osório, 257 - casa 02,  
89204-320 Joinville - SC (BR).

(74) Agents: ARNAUD, Antonio M.P. et al.; Rua José Bonifá-  
cio, 93 - 9th floor, 01003-901 São Paulo - SP (BR).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BW, BY, BZ, CA, CH, CN, CO,  
CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB,  
GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,  
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,  
MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,  
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,  
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

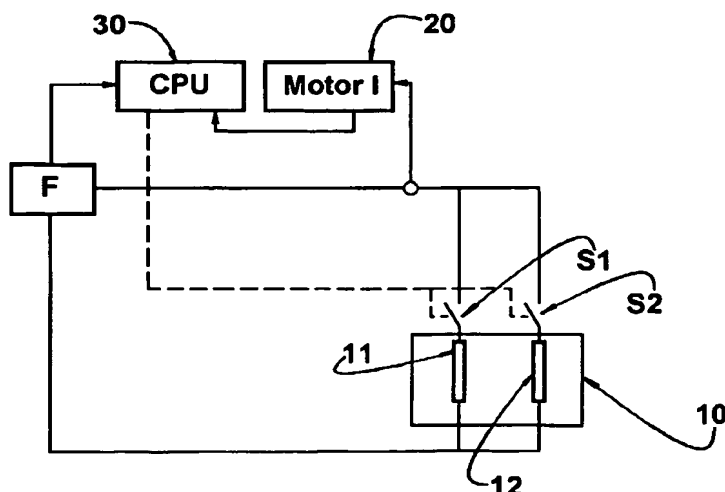
(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: STARTING SYSTEM FOR A SINGLE-PHASE INDUCTION MOTOR



(57) Abstract: A starting system for a single-phase induction motor, comprising: a stator having a running coil (11) and a starting coil (12); a power source (F) which supplies current to said running coil (11) and said starting coil (12); a running switch (S1) and a starting switch (S2), respectively connecting the running coil (11) and the starting coil (12) to the power source (F) when in a closed condition; and a control unit (30) which is programmed to operate the running switch (S1) so as to cause a delay in the supply of the current supplied to the running coil (11) in relation to the supplied of the to the starting coil (12), during the motor start for a determined time interval which is previously defined and considered from the zero-crossing moment of the current supplied to the stator.

WO 2005/057773 A1